Case No. MEM-0003

IN THE CLAIMS

1. (Currently Amended) A composition comprising
about 8 to about ~~10~~ 9.75 wt% molybdenum,
about 2.8 to about 6 wt% aluminum,
up to about 2 wt% vanadium,
up to about 4 wt% niobium, with the balance being titanium, wherein the weight percents are based on the total weight of the alloy composition.

2. (Original) The composition of Claim 1, wherein the composition is cold worked.

3. (Original) The composition of Claim 2, wherein the composition, after cold working, has an elastic recovery of greater than or equal to about 75% of the applied change in length when the applied change in length is 2% of the original length.

4. (Original) The composition of Claim 2, wherein the composition, after cold working, has an elastic recovery of greater than or equal to about 85% of the applied change in length when the applied change in length is 2% of the original length.

5. (Original) The composition of Claim 2, wherein the composition, after cold working, has an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length.

6. (Original) The composition of Claim 2, wherein the composition, after cold working, has an elastic recovery of greater than or equal to about 75% of the applied change in length when the applied change in length is 4% of the original length.

7. (Original) The composition of Claim 2, wherein the composition, after cold working, has a reduction in the elastic modulus of greater than or equal to about 10% when

compared with the elastic modulus of an equivalent heat treated composition.

8. (Original) The composition of Claim 2, wherein the composition, after cold working, has a reduction in the elastic modulus of greater than or equal to about 20% when compared with the elastic modulus of an equivalent heat treated composition.

9. (Original) The composition of Claim 2, wherein the composition, after cold working, has a reduction in the elastic modulus of greater than or equal to about 25% when compared with the elastic modulus of an equivalent heat treated composition.

10. (Original) The composition of Claim 1, wherein the composition exhibits an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length.

11. (Original) The composition of Claim 9, wherein the composition has a β phase or an α phase and a β phase.

12. (Original) The composition of Claim 11, further comprising solution treating the composition.

13. (Original) The composition of Claim 1, wherein the composition is cold worked and shows an elastic recovery of greater than or equal to about 75% of the initial strain when elastically deformed to a 2% initial strain.

14. (Original) The composition of Claim 1, wherein the composition is cold worked and shows an elastic recovery of greater than or equal to about 50% of the initial strain when elastically deformed to a 4% initial strain.

15. (Original) An article manufactured from the composition of Claim 1.

16. (Original) A composition comprising about 8.9 wt% molybdenum, about 3.03 wt% aluminum, about 1.95 wt% vanadium, about 3.86 wt% niobium, with the balance being titanium.

17. (Original) The composition of Claim 16, wherein the composition is cold worked.

18. (Original) The composition of Claim 16, having an elastic recovery of greater than or equal to about 75% of the applied change in length when the applied change in length is 2% of the original length.

19. (Original) The composition of Claim 16, having an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length.

20. (Original) The composition of Claim 16, wherein the composition, after cold working, has a reduction in the elastic modulus of greater than or equal to about 10% when compared with the elastic modulus of an equivalent heat treated composition.

21. (Original) A composition comprising about 9.34 wt% molybdenum, about 3.01 wt% aluminum, about 1.95 wt% vanadium, about 3.79 wt% niobium, with the balance being titanium.

22. (Original) The composition of Claim 21, wherein the composition is cold worked.

23. (Original) The composition of Claim 21, having an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length.

24. (Original) The composition of Claim 21, having an elastic recovery of greater than or equal to about 75% of the applied change in length when the applied change in length is 2% of the original length.

25. (Original) The composition of Claim 21, wherein the composition, after cold working, has a reduction in the elastic modulus of greater than or equal to about 10% when compared with the elastic modulus of an equivalent heat treated composition.

26. (Withdrawn) A method for making an article comprising:

cold working a shape from a composition comprising about 8 to about 10 wt% molybdenum, about 2.8 to about 6 wt% aluminum, up to about 2 wt% vanadium, up to about 4 wt% niobium, with the balance being titanium, wherein the weight percents are based on the total weight of the alloy composition;

solution heat treating the shape; and

cooling the shape.

27. (Withdrawn) The method of Claim 26, wherein the solution heat treating is conducted at a temperature below the isomorphic temperature for the composition.

28. (Withdrawn) The method of Claim 26, wherein the solution heat treating is conducted at a temperature above the isomorphic temperature for the composition.

29. (Withdrawn) The method of Claim 26, wherein the cooling is conducted in air.

30. (Original) The method of Claim 26, wherein the shape is further heat aged at a temperature of about 350 to about 550°C.

31. (Withdrawn) The method of Claim 30, wherein the heat ageing is conducted for a time period of 10 seconds to about 30 minutes.

32. (Withdrawn) A method comprising:

cold working a wire having a composition comprising about 8 to about 10 wt% molybdenum, about 2.8 to about 6 wt% aluminum, up to about 2 wt% vanadium, up to about 4 wt% niobium, with the balance being titanium, wherein the weight percents are based on the total weight of the alloy composition;

solution treating the wire; and

heat treating the wire.

33. (Withdrawn) The method of Claim 32, wherein the cold working results in a reduction in cross-sectional area of about 5 to about 85%.

34. (Withdrawn) The method of Claim 32, wherein the wire diameter is about 0.1 to about 10 millimeters.

35. (Withdrawn) The method of Claim 32, wherein the heat treating is conducted at a temperature of about 500°C to about 900°C.

36. (Withdrawn) The method of Claim 32, wherein the wire is solution treated at a temperature of about 800 to about 1000°C.

37. (Original) The method of Claim 32, wherein the article has a β phase or an α phase and a β phase.

38. (Withdrawn) The method of Claim 32, wherein the article has an elastic recovery of greater than or equal to about 75% of the applied change in length when the applied change in length is 2% of the original length.

39. (Withdrawn) The method of Claim 32, wherein the article has an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length.